bintec elmeg
Teldat Group Company

WLAN ACCESS POINTS

Industrial WLAN access point

bintec WI1003n

- Works as stand-alone AP, managed AP, Wi-Fi client, bridge
- For wireless machine-to-machine communication
- Fast roaming in client mode e.g. in moving units
- Rugged aluminium housing - IP40 protected for indoor usage
- Large temperature range -20° to + 50° C
- DIN rail mounting for panel mounting or wall mounting

bintec WI1003n

Industrial WLAN access point

Rugged industrial WLAN access point which can be used in access mode, client mode or for wireless bridge connections.

Product Description

The WI1003n is an industrial-grade access point that offers IP40 class environmental protection and is suited to a wide range of industrial applications or uses in other harsh surroundings. The device's robust, dustproof metal housing and large operating temperature range make it suitable for use in difficult environmental conditions.

It's equipped with a high-performance 802.11 abgn radio module and MIMO 2x2 technology, enabling raw data rates of up to 300 Mbps. The radio module can be used in either the 2.4 GHz or 5 GHz frequency bands.

Thanks to the availability of these different operating modes, the device gives operators a great deal of flexibility. In addition functioning as an access point, the bintec WI1003n can also operate as a wireless LAN client or establish bridge links. In bridge link mode, this model's high transmission power of 200 mW at 5 GHz and excellent sensitivity give you extended range and higher transmission rates.

Wireless connectivity for moving equipment

When used in its WLAN client mode, the bintec WI1003n offers an easy way to connect machines to the company network. By scanning for suitable radio channels in the background, the bintec the WI1003n can switch to the next access point with practically no interruption whatsoever when a machine moves out of range of its current access point.

The bintec WI1003n for logistics

If you need to provide wireless coverage across a large storage facility, for instance to connect handheld scanners to your inventory management system, the bintec WI1003n in conjunction with a bintec WLAN Controller is an ideal solution. The WI1003n's IAPP protocol together with careful radio cell planning ensures optimal roaming behavior for your wireless scanners in this scenario.

Management

To configure individual devices, all you need is an internet browser. The device's integrated web server allows for rapid configuration and monitoring via the graphic user interface. If you are using the devices as access points however and plan to install more than two of them, a managed network that includes a bintec WLAN Controller is the preferred solution

WLAN Controller

Optimize your WLAN network by using a bintec WLAN controller. The bintec WLAN controller allows configuration of your customers WLAN network in lesser than 30 minutes ... and this without deeper WLAN know-how! The automatic RF management system relieves you the time killing search for free WLAN channels and selects the best channels for the system.

For smaller WLAN networks up to 6 APs bintec access points (W1002n, WI series) are able to take over the function of the WLAN controller by themself and work as quasi master APs. For networks with more than 6 up to 72 APs you will need a bintec R1202 as WLAN controller hardware. You are able to manage bigger WLANs with up to 150 AP by using a bintec RXL12x00 as WLAN controller hardware.

Mounting and installation

The WI1003n is suitable for standard wall mounting. You can alternatively use the included DIN rail adapter for mounting the device on a control panel in any of four different directions. The unit can be powered either via PoE or a 100-240V plug-in adapter.

Variants

bintec WI1003n (5510000371)	Rugged industrial Wi-Fi AP, IP40 with one radio 802.11abgn (2.4/5 GHz) Mimo 2x2, two gigabit ETH, PoE, incl. two RSMA antennas, incl. wall-ceiling mounting unit, incl. DIN rail adaptor, without power supply 100-240 V

Features

Wireless LAN	
WLAN Standards	802.11n (Mimo 2x2); 802.11b; 802.11g; 802.11a; 802.11h
Frequency 2,4 GHz Indoor/Outdoor	2,4 GHz Indoor/Outdoor (2412-2484 MHz)
Frequency 5 GHz Indoor	5 GHz Indoor (5150-5350 MHz)
Frequency 5 GHz Outdoor	5 GHz Outdoor (5470-5725 MHz)
WLAN Modes	2,4 GHz Operation: 802.11b only; 802.11g only, 802.11b/g/n mixed; 802.11b/g/n mixed long; 802.11b/g/b mixed short; 802.11b/g/n ; 802.11g/n; 802.11n only
WLAN Modes	5 GHz Operation: 821.1a only; 802.11a/n; 802.11n only
TX Power @ 2,4GHz	up to 18dBm without antenna gain
TX Power @ 5GHz	up to 21dBm without antenna gain
RX Sensivtiy	up to -95dBm without antenna gain

Wireless LAN

TX Power adjustable	5dBm, 8dBm, 11dBm, 14dBm, 17dBm, max.
Channel selection	Automatic or manually
Automatic Rate Selection	Supported
Transmission rates	Automatic
Number of spatial streams (802.11n)	1 or 2
Multi SSID	Up to 16 SSID per radio with own MAC address for each SSID. Each SSID can assign to a VLAN to separate the traffic.
Broadcast SSID	Selectable on/off

Software

Airtime fairness	Optimizing the throughput when slow clients or clients there are far away are connected
Client load balancing	Avoid overloading of the AP in the case that many users are connected. Allow the movement of clients to other AP in case of high load.
Limitation of the number of clients	From 1to 250 clients. It could be useful to allow more than 32 clients with applications with low bandwidth requirement.
Throughput limitation	A maximum throughput can be defined for each client. Defineable or each SSID
TPC	TPC (Transmission Power Control): For 5 GHz, automatic TX power reduction according EN301893)
DFS	DFS (Dynamic Frequency Selection) for 5 GHz
WMM 802.11e QoS	Data priority for TOS tagged data according 802.11e/WMM
WMM 802.11e Power Save	Supports WLAN Clients there supporting 802.11e power save and U-APSD
Roaming	Seamless Roaming through IAPP (Inter Access Point Protocol) support according 802.11f useful for VoWLAN phones and for Wireless Barcode scanner.

Security

Wireless security	Open, WEP64 (40 Bit key), WEP128 (104 Bit key), WPA Personal, WPA Enterprise, WPA2 Personal, WPA2 Enterprise
IEEE802.11i authentication and security	802.1x/EAP-MD5, 802.1x/EAP-TLS, 802.1x/EAP-TTLS, 802.1x/EAP-PEAP, Key Management, PSK/TKIP Encryption, AES Encryption, 802.1x/EAP
Access Control List (ACL)	MAC address filter for WLAN clients (white list) and dynamic and static blacklist. Black list function requires WLAN Controller
WIDS (Wireless Intrusion Detection System)	Rogue AP detection: detect foreign Aps, which try to sp out data via SSIDs by permanent background scanning. When the attack is detect a SNMP trap or a email alert can be send. This functionality requires WLAN Controller.
WIDS (Wireless Intrusion Detection System)	Neighbor AP detection: Detect AP in the neighborhood, which can reduce the performance at the own network. In case of detection a SNMP trap or a email alert can be send.This functionality requires WLAN Controller.

Security

WIDS (Wireless Protection Detection System)	Rogue Client Detection: detection and protection detect conspicuous clients, which try to intrude or interfere the wireless network.In threat case blocking by dynamic black list. This functionality requires WLAN Controller.
VLAN	Network separation at layer 2. For each SSID ist one VLAN ID possible. Static VLAN configuration according IEEE 802.1q, supports up to 32 VLANs.
Intercell repeating	Inter traffic blocking for public HotSpot (PHS) applications for preventing of communication WLAN client to WLAN client in a single radio cell

Administration / Management

HTTP/HTTPS	Web based configuration
Configuration management	Via Telnet, SSH, HTTP, HTTPS, SNMP
SNMP	SNMP (v1, v2, v3), USM Model, VACM Views, SNMP Traps (v1, v2, v3) selectable, SNMP IP access list configurable
SNMP Configuration	Complete Management according MIB-II, MIB 802.11, Enterprise-MIB
SSH Login	Support SSH V1.5 and SSH V2.0 for secure connection of terminal application
Configuration backup/restore	Backup/Restore to/from file
Backup	Optional encrypted backup file
Backup	Optional automatic backup via scheduler
WLAN Controller operation	Manageable with the bintec WLAN Controller according CAPWAP (DHCP option RFC1517)
Master-AP operation	Integrated WLAN controller for 5 additional bintec AP

Hardware

LAN/WAN Interface	Two interfaces 10/100/1000 Mbps, autosensing, auto MDI/MDIX
Ethernet connectors	Two RJ-45
Antennas	Two external omni antennas with RSMA connectors which support 2,4 and 5 GHz. Antenna gain approx. 2 dBi
Power Supply	9V/1,3A DC ; 100-240V AC wall adaptor with Euro plug or PoE according 802.3af or 802.3at (Wall adaptor and PoE injector not included)
Power Consumption	ca. 6,5 Watt
Dimensions	150x120x41 mm
Temperature conditions	-20 - 50 °C
Housing	Rugged full aluminum housing with integrated theft protection
Theft protection	Integrated at the housing, Kensington ® compatible
Mounting	Wall, Ceiling or DIN Rail mounting (mounting units include)

Operation Modes

Operation Modes

WLAN AP	WLAN Access Point stand-alone or WLAN Access Point managed by a WLAN Controller or WLAN Master-Access Point can control up to 5 additional AP
WLAN Bridge	WLAN Bridge link Point-to-Point or Point-to-Multipoint
WLAN Client	WLAN Client operation

Software Features for AP stand-alone operation

Captive portal function / HotSpot	Additional external RADIUS server or bintec HotSpot license required
Internet Dial-up	PPPoE, PPTP
NTP	NTP Client, NTP Server, manually
DHCP	DHCP Client, DHCP Server, DHPC Relay
VPN	IPsec, L2TP, PPTP, GRE

Software features for WLAN Client operation

Functionallty	Layer 2,5 Bridge for connect several IP based device and one non-IP device to a wireless network.
Wireless security	Open, WEP64 (40 Bit key), WEP128 (104 Bit key), WPA Personal, WPA2 Personal
Roaming behavoiur	Selectable (no, slow, normal, fast, customized roaming). For fast moving clients (i.e. vehicles) to be archive a seamless roaming. This feature is realized by scanning the relevant channels in the background.
Scanning functionallty	Show a list of available AP in the area
Station list	For one SSID, manually configuable or configuable by using the scanning function
Monitoring	Detailed information for each link (Uptime, Signal, Noise, Data rate,)

Software features for WLAN Bridge operation

Configuration	Applicable as Access-Point/Bridge-Link Master or as Bridge-Link Client
Application	For Point-to-Point or for Point-to-Multipoint (up to 8) applications.
Wireless security	WPA2 Personal
DFS	DFS (Dynamic Frequency Selection) for 5 GHz works without interruption every 24h
Monitoring	Detailed information for each link (Uptime, Signal, Noise, Data rate, ...)

Approvals

CE approval	R&TTE Directive 1999/5/EG; EN 60950-1 (IEC60950); EN 300 328; EN 301 489-17; EN 301 489-1; EN 301 893

Approvals	
Protection class	IP40 protected for industrial application

Supervision	
Syslog	Syslog Client with different level of the messages
eMail Alarm	Automatic eMail if any defined event occurs
SNMP Traps	Supported
Interfaces statistic	Statistic information for all physical and logical interfaces
WLAN Monitoring	Detailed information about the radio, SSIDs, Bridge link, clients. For each link MAC address, IP address, TX packets, RX packets, signal for each antenna, Signal/Noise value, data rate.
WLAN History view	Show the performance values based on WLC, AP, SSID, Client level help to detect any bottlenecks
Scheduler	The following events are plan able: device reboot, activate/deactivate interfaces, activate/deactivate SSIDs, trigger of software update, trigger of configuration backup

Accessoires

Add-ons	
PS-EURO-Wx003n/Wx004n (5500001254)	Wall power supply with EU-plug for W1001n, W1003n, W2003n, W2003n-ext, W2004n, WI1003n